Early Journal Content on JSTOR, Free to Anyone in the World

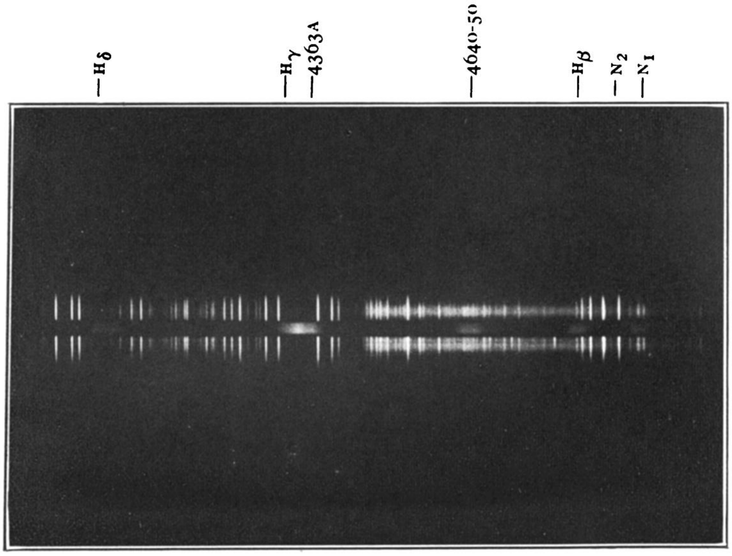
This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.



Spectrum of Nova Monocerotis, 1918

NOTES FROM PACIFIC COAST OBSERVATORIES

Nova Monocerotis[1]

Nova *Monocerotis*, found by Wolf[2] at Heidelberg on February 9, 1918, to have a spectrum of nova type and a magnitude of 8.5, seems to have passed its maximum before that date. The Harvard photographs[2] show its magnitude to have been 5.4 photographic on January 1st and to diminish continually since then, becoming ninth or tenth magnitude in March.

Four determinations of position have been published by Barnard, Van Biesbroeck, Thiele, and Tucker. These average $7^h22^m47^s$ in right ascension and $6^\circ 30' 34''$ south in declination.

Several observations of spectrum have been made at the Harvard, Lick, and Mt. Wilson observatories; with objective prism at the former, and with single prism-slit spectrographs by Moore, Paddock, Adams and Joy, at the two latter. The spectrum plates show the following bright emission bands: H_ζ, H_ϵ, H_δ, H_γ and 4363A overlapping, 4520, 4640-50, 4686, H_β, N_1, N_2, 5440, 5526, 5630, 5677, 5755, H_α.

On looking into the camera of the spectrograph on the night of the first observation, February 25th, at Mt. Hamilton, we saw four bright bands which were $H\gamma$ and 4363 overlapping, 4640-50, $H\beta$, N_1 and N_2 overlapping. The camera was set for the blue H_γ region central and a reproduction of the plate obtained is here given. Our second plate, March 1st, was set for the yellow D line central and shows very faint, long bands between N_1 and D_3. The plates of March 15th and 27th were stained to obtain the red H_α.

A description of the bands appearing on the plates is given in the *Lick Bulletin*. Particular points of interest may be here mentioned. Some of the bands give indication of being complex. In general a faint broad absorption band lies over the middle of every emission band. It may not be a uniform band, but may be a group of close narrow absorption bands or lines. The full widths of the absorption bands range from 6 to 21 angstroms and give indication of increase in width with increasing wave-length. A range of 40 to 60 angstroms is found for the widths of the bright bands, but with no appearance of regularity. The bands of hydrogen and 4640-50 are very nearly symmetrical, the intensity curves consisting of a gradual rise from the violet side, a slight depression due to the absorption, and a perhaps more gradual decline to the red side. But the two nebulium bands are distinctly unsymmetrical, the bright parts being stronger on the violet side of the absorption band than on the red side. Adams and Joy mention this feature, noting that it is the reverse of that seen in the bands of Nova *Geminorum* No. 2, 1912. The displacements of the bright bands are very uncertain, but those of the superposed absorption bands average much less than an angstrom, which probably indicates that they are in general normally placed. There are no narrow lines available on these plates for determining radial velocity.

---

[1] A more detailed account is being published as a Lick Observatory Bulletin.

[2] *H. C. O. Bull.*, 653, Feb. 21, 1918.

It is obvious from the spectra that this nova at the times of the observations had reached the nebular stage of the usual cycle of spectra presented by novae.

May, 1918. G. F. Paddock.

The Parallax of Barnard's Star of Large Proper Motion

Eighteen exposures made at the 80-foot focus of the 60-inch reflector between September, 1916, and May, 1918, give as the relative parallax and proper motion in right ascension

$$\Pi = +0.''519 \pm 0.''006$$
$$\mu_{\alpha} = -0.''728 \pm 0.''014$$

The following preliminary parallaxes by other observers have already been published:

Russell $\Pi =$	$+0.''70$	$\pm 0.''06$
Schlesinger	$+0.50$	< 0.03
Gonnessiat	$+1.00$	....
Mitchell	$+0.47$	± 0.01
Lee	$+0.52$	± 0.02
Comas-Sola	$+0.418$	± 0.024

Adopting $+0.''500$ for the parallax, the absolute magnitude is 13.17 photovisual and 14.93 photographic; the object is therefore one of the very faintest stars known.

A. van Maanen.